

MAY 01 2007

Serial No.: 10/825,252  
Docket No.: IJ0056 US NA

Page 6

**REMARKS**

The Applicants have carefully considered the Office Action mailed November 3, 2006, wherein all pending claims remain rejected, but this time on new grounds. In view of the present submission, Applicants respectfully request reconsideration of these rejections.

**Explanation of Amendments**

As can be seen from above, Claim 1 has been amended to better define the invention. Claim 1, as amended, more clearly defines the specific dye ink combination that provides good image quality and good jetting performance in fixed array inkjet printheads firing small drops.

As explained in Applicants' previous response, ink sets suitable for use in scanning inkjet printheads are not at all certain to be useful in a fixed array inkjet printhead. The present invention addresses the unique needs of printing with a fixed array printhead (i.e., fixed in position) by the appropriate selection of the recited features from the myriad of possible dye ink compositions encompassed by the cited art, without sacrificing image quality and jetting performance. As discussed below, this selection is neither trivial nor obvious.

The support for the amendments to Claim 1 are summarized below:

Claim	Support for Amendment
1	Original claims 7+14+page 13 of the specification

In light of the forgoing amendment to Claim 1, Claims 7, 11, 14, 16-20 have been canceled, and the dependencies of Claims 8 and 10 have been adjusted accordingly.

Since these claim amendments add no "new matter" to the application, the Applicants request that such amendments be entered into the record for further examination of this application.

As can be also seen from above, the specification has been amended to add a brief description of the drawings, which was not present in the original filing. Support for this amendment can be found on pages 11 and 12 of the original specification.

MAY 01 2007

Serial No.: 10/825,252  
Docket No.: IJ0056 US NA

Page 7

Claim Rejections

In the aforesaid Office Action, all pending claims still stand rejected, but this time on a variety of new grounds that are individually discussed below. The Applicants submit that, taking into consideration the claimed subject matter as a whole, none of the cited art singly or in combination discloses or suggests the present invention.

(1) §103 Rejection based on based on Yoshihira et al and Silverbrook et al:

Claims 1-3, 5-8, 13, 16, 17 and 19-22 have been rejected under 35 U.S.C. §103(a) as allegedly being obvious over the disclosure of Yoshihira et al. (US 20020033862) in view of Silverbrook et al (US 6443555). Applicants respectfully traverse this rejection.

Without going to the basis of this rejection, Applicants would note that Claims 7, 16 and 17 have been canceled and pending Claims 1-3, 5-6, 8-9, 12-13 and 21-22 have been amended to contain the limitations from Claim 14 which was not part of this rejection.

As such, this rejection has been rendered moot and should be withdrawn, and patentability of these pending claims will be argued hereinafter relative to the third obviousness rejection, i.e., relative to Yoshihira et al. (US 20020033862) in view of Silverbrook et al (US 6443555) and further in view of Shi et al (US 6641257).

(2) §103 Rejection based on based on Yoshihira et al, Silverbrook et al, and Shimomura et al:

Claims 4 and 18 have been rejected under 35 U.S.C. §103(a) as allegedly being obvious over the disclosure of Yoshihira et al. (US 20020033862) in view of Silverbrook et al (US 6443555), and further in view of Shimomura et al. (US 5866638).

Without going to the basis of this rejection, Applicants would note that Claim 18 has been canceled and pending Claim 4, since it depends from claim 1, now contains the limitation of claim 14 which was not part of this rejection. As such, this rejection has been rendered moot and should be withdrawn. Claim 4 should be patentable for at least the reasons given herein for amended Claim 1.

Serial No.: 10/825,252  
Docket No.: IJ0056 US NA

Page 8

(3) \$103 Rejection based on based on Yoshihira et al, Silverbrook et al, and Shi et al:

Claims 9, 11-12, and 14-15 have been rejected under 35 U.S.C. §103(a) as allegedly being obvious over the disclosure of Yoshihira et al. (US 20020033862) in view of Silverbrook et al (US 6443555), and further in view of Shi et al. (US 6641257).

As a preliminary matter, the Examiner incorrectly referred to Shi et al. in the body of this rejection as "Arita et al." It appears that the Examiner meant to cite "Shi et al" and this rejection will be argued on that basis.

Turning to this rejection, first without going to the basis of this rejection, Applicants would note that Claim 11 is now canceled, and as such, this rejection relative to Claim 11 has been rendered moot, and should be withdrawn. Also, as noted above, the limitations of Claim 14 have been incorporated into Claim 1. Therefore, this rejection is argued relative to pending claims 1-3, 5-6, 8-9, 12-13, and 21-22, as well as claims 9 and 15.

Turning to the pending claims, in Applicants' previous response dated August 23, 2006, Applicants had pointed out that the primary reference Yoshihira et al. describes ink-jet printing using scanning (traveling) printheads, as opposed to page-wide fixed array printheads as claimed, and even though Yoshihira et al. describe a nearly infinite number of possible ink combinations that could be used in scanning printheads (some of which contain dyes and the other of which contain pigments), there is nothing in Yoshihira et al. alone or in combination with any of the other previously cited art that would motivate one skilled in the art to pick the claimed ink compositions from among the vast number of possible combinations encompassed by the cited references (assuming for the sake of argument the references were properly combinable) for use in fixed array printheads.

Silverbrook et al., as acknowledged by the Examiner, clearly do not fill this gap, as Silverbrook et al. disclose a fixed array printhead ejecting 1.0 pL droplets but make no disclosure of an ink set other than a general reference to "CMYK inks" (col 6, lines 14 and 38).

However, it is the Examiner's position that, although Yoshihira et al., in

Serial No.: 10/825,252  
Docket No.: IJ0056 US NA

Page 9

combination with Silverbrook et al., lack disclosure of a cyan ink, magenta ink, yellow ink, dye ink set having Applicants specified combination of dyes, this gap in the disclosure in the primary reference is filled by Shi et al. and that it would have been obvious at the time of the invention to modify the disclosure of Yoshihira et al, with Shi et al. to arrive at the presently claimed ink set. Applicants respectfully traverse this rejection.

The Examiner refers to col. 6, lines 3-32 of Shi et al. as disclosing the claimed concentration limits of the present invention. However, this is a general disclosure citing broad ranges for individual inks (not ink sets) and is no better than the general disclosure of Yoshihira et al. at paragraph [0053] which Examiner has already acknowledged to be insufficient. Applicants submit that one of skill in the art would not have any motivation to pick and choose the claimed ink set combination from among the myriad of possible ink combinations encompassed by the general disclosure in the cited references even assuming the references were properly combinable.

Further in regard to Shi et al., there are fifteen (cyan, magenta and yellow) ink sets exemplified in the actual Examples described in the patent, but none overlap with the claimed ink set. Specifically, none of the fifteen Shi et al. ink sets disclose a cyan ink having at least 3.5% up to about 8 wt % soluble cyan dye as presently claimed (Example 10 has 2.9 wt % cyan dye, the others have 2.5 wt%). Also, Examples 1-4 and 6-15 in Shi et al. disclose a yellow ink with 20 wt % yellow dye which is outside the claimed yellow ink range of at least 4.3% and up to about 11.5 % yellow dye.

In view of the above, it is respectfully submitted that the references asserted by the Examiner not only fail to disclose or fairly suggest all elements of Applicants' claim, but also fail to provide any motivation for selecting the claimed combination of inks from various combinations disclosed in the prior art. Accordingly, it is respectfully submitted that the references do not set forth a *prima facie* case for alleged obviousness.

Furthermore, when looking at a fair teaching of the three-way combination proposed by the Examiner, the only possible way to arrive at the position taken by the Examiner is with hindsight benefit of the Applicants' disclosure and claims. Such hindsight, however, is an improper perspective in which to judge patentability. The mere fact that the parameters disclosed in the Shi et al reference could be combined in

Serial No.: 10/825,252  
Docket No.: IJ0056 US NA

Page 10

numerous ways in the Yoshihira et al reference does not in and of itself make each of those ways a supportable basis for an obviousness rejection.

When looking at the problem at hand with fixed array printing, as we must, from the standpoint of one with no fore-knowledge of the specific combination being mentioned, one is left to select from the myriads of possibilities encompassed by the broad disclosures, with no guide indicating or directing or suggesting why this particular selection should be made rather than any of the many others which could also be made. Absent such a teaching or suggestion or something to motivate one of ordinary skill in the art to make Applicants' combination, Applicants submit that the *prima facie* case of obviousness has not yet been made, and the examiner erred in concluding the claimed invention would have been obvious (see, *In re Baird*, 29 USPQ2d 1550 (Fed. Cir. 1994); see, also, MPEP Section 2144.08).

Yoshihira et al. disclose no ink set of any sort for use with a fixed array printhead such as that recited in Applicants' step (a) of Claim 1. Silverbrook et al. disclose a fixed array printhead ejecting 1.0 pL droplets, printing in one pass, but make no disclosure of an ink set other than a general reference to "CMYK inks" (col 6, lines 14 and 38). Shi et al. disclose broad ranges for individual inks (not ink sets) and also make no reference whatsoever to any particular printhead type or droplet size for which those inks are suited. Thus, if there is any motivation to combine at all, such motivation is provided only by improper hindsight based on Applicants' own disclosure. Furthermore, even when the three references are combined, all of Applicants' claim limitations of the invention are not taught or suggested, since none of the cited art actually discloses the ink set limitations claimed. As such, lifting of this rejection as it relates to any of the pending claims is respectfully requested.

(4) §103 Rejection based on based on Yoshihira et al, Silverbrook et al, and Shingai et al:

Claim 10 has been rejected under 35 U.S.C. §103(a) as allegedly being obvious over the disclosure of Yoshihira et al. (US 20020033862) in view of Silverbrook et al (US 6443555), and further in view of Shingai et al. (US6350019).

The Shingai et al. reference is applied because it discloses 1.5 pL droplets. However, Shingai et al. pertain to scanning printheads (Col. 1, lines 26-28) which must

MAY 01 2007

Serial No.: 10/825,252  
Docket No.: IJ0056 US NA


Page 11

move across the substrate in order to print. Scanning printheads are separate and distinct from fixed array printheads covered by the present invention. Shingai et al. makes no disclosure of fixed array printheads or droplets volumes ejected therefrom. Furthermore, Shingai et al. make no disclosure of any ink set for any kind of printer. The combination still does not disclose a fixed array printhead ejecting 1.5 pL droplets of specified cyan, magenta and yellow dye ink. Also, as argued in the preceding rejection, and incorporated here by reference, the ink set limitations are not disclosed. As all of Applicants' claim limitations of the present invention are not disclosed or fairly suggested, lifting of this rejection is requested.

#### Conclusion

In view of the above remarks, it is urged that the invention as presently claimed is patentable over the art of record, taken in any combination, and that the application is in condition for allowance. If for some reason the application is not allowable, Applicants' attorney requests a telephonic interview with the Examiner to discuss the case and any additional amendments to the claims that may be required to place the case in allowable form.

Respectfully submitted,

  
STEVEN C. BENJAMIN  
ATTORNEY FOR APPLICANTS  
REGISTRATION NO. 36,087  
TELEPHONE: 302-992-5285  
FACSIMILE: 302-992-2533Dated: 5/1/07